GEMS OF AMERICA.

Mining for Precious Stones in This Country.

Diamonds, Emeralds, Opals and Sapphires Among the Number—Where and How They Are Found—A Growing Industry.

Although nearly all known varieties of precious stones are found in the United States, there has until recently been little effort made to search for them on an extensive and systematic scale, the indications usually not promising a sufficient return for any great outlay of capital. But there has lately been an advance in this direction, for whereas, in 1889 mining for gems was carried on only in two states, there were mined during the last year the following precious stones: Tourmaline in Maine, emeralds in North Carolina, turquoise in New Mexico, sapphires in Montana, and opals in Washington, Idaho and Oregon. Diamonds are found scattered over the country, but up to date never in commercially paying quantities. The two chief diamond belts are along the southern base of the Alleghanies from Virginia to Georgia, and along the western base of the Cascade and Sierra Madre mountains in northern California. There have also been unconfirmed reports of scattered gems found in other localities, and within a year or two considerable excitement was aroused by the reported occurrence in central Kentucky closely resembling the diamond bearing earth of the African mines. But it was afterward found there were important differences between the deposit and the Kimberley clay, the most vital of which was that the Kentucky strip bore no diamonds.

Sapphire is found chiefly among the crystalline rocks along the base of the Appalachian mountains, from Chester, Mass., to southern Georgia. The largest corundum crystal ever found, which was five times larger than any other known crystal, is now in the collection of Amherst college. It suffered somewhat in the disastrous fire of 1892. Turquoise is one of the most important gem products of the country. It is found in several localities in New Mexico, Nevada and Arizona. Some is also obtained in Fresno county, Cal. During the last two years turquoise has been actively mined for in New Mexico, reopening some of the mines originally worked by the Indians, and they have found turquoise equal in color to the finest Persian material. Stones have been found in these localities weighing up to sixty karats, one of which was sold for about $4,000, and is now possibly for the first time in the last half century to match a perfect turquoise necklace.

Turquoise has always been known as an unstable gem. Even the finest Persian stones are liable to change occasionally with scarcely any warning, the alteration probably being due to the turquoise coming in contact with acid exhalations from the skin or with fatty acids or alkalis in soap, although wearers of turquoise are especially warned to remove the rings while washing their hands. The sale of American turquoise during the year 1891 probably exceeded $100,000, and for 1892 $175,000, and a greater amount for 1893.

Garnets are also found throughout nearly the same region as the turquoise. One of their peculiarities is that the most of them are ready mined for the prospectors, who find them dug out around the ant hills and scorpion holes. They are collected by the Indians and soldiers and sold to the Indian traders.

Some of the exceptionally fine ones have brought $50 or $100, though the one-karat stones seldom bring over $5. The garnet output from this region amounts to about $5,000 in cut stones annually. Opals and amethysts are the two other precious stones of the greatest importance in this country. In the new opal beds of Oregon $20,000 worth of the gems were obtained in 1892. —Washington Post.

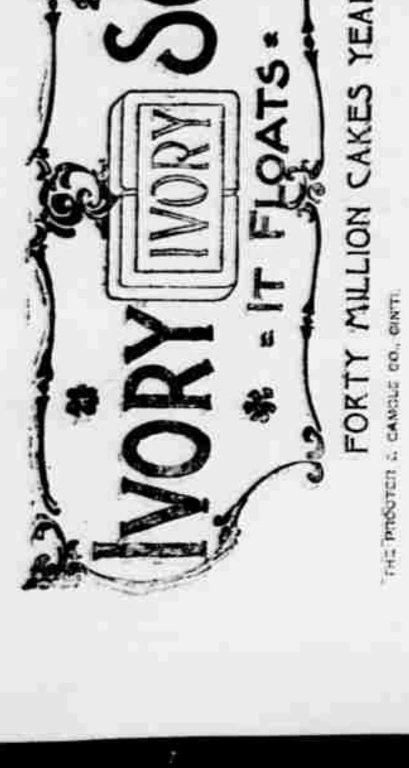
She Couldn't Wait.

Lady—I want to sit for a picture.

Artist—I shall be very glad to paint you, if you will wait a week, until I finish the one I am at work on now."

Lady—Oh! my. I couldn't wait that long. I promised to be home to dinner at five o'clock!

Thats the trouble with some people, hey have no time to wait for results. Some women will take a dose or so of Dr Pierces Favorite Perscription and expect to feel well immediately. True some do find marvelously speedy effects from a single dose, but chronic diseases, which have had possession of the system for years, cannot be cured in a day. Persevered with it and it will cure you, ladies, of all the ills you suffer from. Guaranteed to cure in all cases of nervousness, spasms, chorea, irregularities, painful periods, and kindred ailments.



THE EVOLUTION OF THE DAIRY COW.

An Abstract of an Address Before the Students of the School of Agriculture of the Ohio State University at Columbus, O. by Prof. C. S. Plumb, Purdue University Lafayette, Ind.

Of the early history of domesticated cattle, we know but little. Boyd Dawkins, an Englishman, and Ruetimeyer, a German, have devoted considerable research to the history of the European species. Two groups of cattle are commonly referred to by naturalists, *Bos indicus*, the humped cattle of India, and *Bos taurus*, those lacking the hump. These species differ radically in numerous important respects and according to Darwin "there can hardly be a doubt notwithstanding the adverse opinion of some naturalists, that the humped and non-humped cattle must be ranked as specifically distinct." The common cattle of Europe and America are generally referred to as of the type *Bos taurus*.

However, the researches of Dawkins and Ruetimeyer have shown a number of pre-historic forms to have existed. Of these, says Darwin, *Bos primigenius* and *Bos longifrons* are the most important. *Primigenius*, a large, magnificent beast, was domesticated in Switzerland during the Neolithic period, and existed as a wild animal in Caesar's time. *Longifrons* was a very distinct species of small size, with short body and fine legs. It was also the commonest form in a domesticated condition in Switzerland during the earliest part of the Neolithic period. "On the whole we may conclude, more especially from the researches of Boyd Dawkins, that European cattle are descended from two species; and there is no improbability in this fact, for the genus Bos readily yields to domestication." From these two species, it is assumed by some of the greatest investigators on the subject, have descended our domesticated breeds of to-day.

From these early established species it is reasonable to assume our present numerous different breeds or varieties have descended. In 1860 Moll and Gayot enumerated fifty-five European breeds of cattle, and this list may be considerably extended at the present day. The writer has secured a list of 118 so-called breeds, more or less described in 1887.

It would be impossible to determine the range of varieties which have occurred in very early times, but it probably was not great. While changes of climate and food materially assisted in producing variation, a more important factor was the breeder himself.

Early works on agriculture devote but little attention to live stock husbandry, and one can find only the most limited reference to such a thing as breeds of cattle, while many pages are devoted to the culture of crops. In 1675 J. W. Gent (John Worlidge) wrote as follows concerning the cow: "The best sort is the large Dutch cow, that brings two calves at one birth and gives ordinarily two gallons of milk at one meal." In a large volume of 328 pages, one-fourth of a page refers to "cows" and "oxen," while the above quotation is the only reference to a breed.

In 1780 George Cully, in his "Observations on Live Stock," writes of six breeds of cattle on the British islands, which includes the "wild breed." From the middle of the eighteenth century, however, breed lines became more and more distinct, for it was about this time that the influence of the English breeder began to be felt—notably in the person of Robert Bakewell. Since then there have been developed many so-called new breeds.

Excepting in the low countries bordering the Baltic and North seas, the value of the milking quality did not receive such general recognition in early times as the beef quality. Most of the writers prior to the nineteenth century rarely refer to the dairy cow or to the development of such a class.

The speaker then discussed the early history of several breeds of cattle.

It is consequently evident, from historical data at hand, that in early times there were but few breeds of cattle, and these were mainly valued for meat. The Hollanders and the Swiss were probably the first to direct much attention to dairy breeds, and possibly for four hundred years the former have set a special value on the milking quality.

No doubt good milkers existed in these early days, yet the character of the type of the best dairy animal must have somewhat changed since then, if we can depend on the descriptions of even 80 years ago. Writing of the Ayrshire, Alton in describing the shapes approved of, commends round, fleshy buttocks, large hind quarter and small teats. To-day on a dairy breed such buttocks are not to be thought of, and the quarter should be spare of flesh. A heavy buttock and hind quarter was probably a characteristic of the early type of this breed, which was rated high for fattening. Instead of being small, there is now a standard Ayrshire teats, which should be from 2¼ to 3 inches long.

It is very probable that a century ago a coarseness existed among dairy cattle, tending towards beefiness, that would not meet with favor in a dairy type to-day. The conditions of care and management and the lack of knowledge of laws of breeding at that time would justify such conclusions. Animals were from necessity more exposed to open and inclement weather, and a great deal of coarse food was used in maintaining body heat and nutrition, that in this day might be converted into milk where body heat is properly protected. To-day, in time of peace and quiet, the occupation of the breeder will permit of systematic breeding upward. In the early days of European history, constant wars and strife prevented very extended attempts at breeding in a systematic manner, so that it is not reasonable to expect that anything remarkable was accomplished in the way of intensifying the milking habit.

In this country, however, the improvement has been an important one, as is demonstrated in numerous ways. Of the prominent dairy breeds, the

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OHIO STATE UNIVERSITY

Glimpse at the Educational Work Done There.

Some of the New Features as Outlined in the New Catalogue—Departments and Lectures.

Eighty members of the faculty and 808 students are listed in the annual catalogue of the Ohio State university for the current year. The catalogue is a voluminous pamphlet of nearly 200 pages, and is probably the most carefully prepared and comprehensive of any of the catalogues issued by the institution. Its contents embody much interesting descriptive matter relative to the various departments, buildings, etc., beside the detail and explanation usually found in such publications.

Of the 808 students who took actual class work during the year now closing, 118 were young women, the attendance of whom has grown until it now forms one-seventh of the total number of students. The records at the university show that the majority of these young women entered either the arts or the philosophical course. Their studies were not all confined to these lines, however, for five young women took the scientific course, one studied engineering and one will be graduated next June from the course in pharmacy. The interest which the advanced woman is taking in practical affairs is distinctly in evidence at the university, where the young women pupils are evincing a decided inclination to break the environments of custom and seek larger opportunities of intellectual training.

Eighty-three of the students of the university are in their senior year, and those of them who are successful in passing the annual examinations will be graduated in June. Nineteen of the eighty-three, or nearly one-fourth, are young women. Seven students are taking the course preparatory to the study of medicine, forty-six are studying pharmacy, sixteen veterinary medicine, seventy-eight agriculture, and there are eleven each in the courses of mining, clayworking, and dairying. The law department has sixty-five students, twenty-five of whom expect to be graduated this year. A glance at the list of students as printed in the catalogue shows that they come from almost all parts of the country. Ohio naturally furnishes the larger part of the attendance, but there are pupils from Colorado, Wisconsin, Michigan, Wyoming, New York, Pennsylvania, Kentucky, California and a number from the two Virginias.

The faculty of eighty members is divided, in relation to rank and position, into thirty-seven professors, one associate professor, eight assistant professors, twenty-eight assistants, three lecturers, one curator and one librarian. Many of these instructors are men widely known in the lines of their especial study, and some of them have distinction in both American and European educational circles.

A number of new departments of instruction at the university appear for the first time in the catalogue this year. Among them are the course preparatory to the study of medicine, the course in dairying, the course in clay working and the course in elocution and oratory. Hereafter the course in dairying will begin each year in the first Wednesday following the 1st of January, and will continue 12 weeks. Butter making, as practiced in the dairy farm, and in the creamery, is thoroughly taught, and the student performs all the necessary operations under the guidance of instructors. In cheese making the principles are taught with elementary practice. During the second term the theory and practice of the selection and judging of dairy stock and the equipment and management of dairy farms is taught.

The course in clay-working is designed to give those who are engaged in the manufacture of clay products, an opportunity to learn in the shortest time possible the rudiments of the sciences which are most likely to be useful to them in their work. The state university is the first and at the same time the only institution in the United States offering special facilities for the study of clays, clay working and the chemical technology of the ceramic art. Chemical work is made the main feature of the course. It is supplemented by elementary physics, geology and mathematics. The ceramic laboratory work teaches the students to apply the knowledge gained from their studies before leaving college, and thus opens a way to the creation of a class of trained observers in the practical problems of industry.

The course in elocution and oratory, which also appears for the first time in the catalogue, has been a department of the university since last September. The study of the vocal organs and muscles, with appropriate exercises, constitutes the first part of the instruction, while as the pupil advances they are given a wide variety of education and training in all that goes to make elocution and oratory one of the elegant arts.

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CORRECT SCIENTIFIC NAMES

The Recent Reforms in Botanical Nomenclature Explained by Prof. Kellerman, of the Ohio State University.

The scientific name of a plant or an animal is supposed to be unchanging and unchangeable—a name that is the same the world over, known to all scholars or educated people, and in the Latin form, whether the language of the speaker or writer be English, French, German, Italian, Russian, Japanese. And such it should be without exception.

Yet a violation is found, for example in the generic name of our hickories. The name of this genus of forest trees as given in the manuals used in schools and colleges is Carya. Consulting more recent publications the name Hicoria is found instead. Which is correct?

The name Hicoria was given by Rafinesque in 1808. The name Carya was introduced by Nuttall ten years later, namely in 1818. Hicoria had not been used previously. It was therefore a legitimate name to apply, and should without question be retained. It is carya that should be discarded.

If Nuttall was ignorant of Rafinesque's generic name, he is quite excusable for proposing another. But later botanists who took up his name, rejecting the one that had been first given, are not at all excusable. They are thereby destroying the stability of nomenclature. Preoccupation of the name should be the only ground for changing after it has been published. A name may be illy-suited, may refer to a character that does not exist, may indicate some quality possessed by another species in a higher degree, or may, if we heed its literal meaning, be wholly misleading, yet any or all of these reasons combined will not warrant a change from the original.

If we grant the right to change for one cause, it can be justly claimed for another, and another without end. If we grant one botanist a right to change a name, another and another, without end, must be given the same license. This precludes stability—the one thing to be attained in scientific nomenclature and without which really it can not be a nomenclature.

This subject has been thoroughly discussed by the botanists during the last few years, and almost without exception the same conclusion has been reached, namely, that however inconvenient and distasteful it may be to throw aside many names that have wrongfully crept into our lists, to-day we should consistently apply the principle of priority. This will result in absolute stability, so far at least as the specific name is concerned.

If for example Linnæus gave the name "dioicus" (1753) to our species of Kentucky coffee-tree, that name should remain even if he classed it in the wrong genus—which he did, for he called it "Guilandina dioicus." It should have been placed in the genus Gymnocladus, and this Lamark did in 1848. But he unjustifiably coined another specific name for it, and for many years his name has stood—Gymnocladus canadensis. But it already had received a specific name at the hands of Linnæus, and to change which no legitimate reason can be given. In 1865 Koch restored the Linnæan specific name and gave it in the form it is, or should now be used, namely, Gymnocladus dioicus (L) Koch. By citing the two authors as above, it is meant that the one in parenthesis (Linnæus in this case), gave the specific name, and the one following (Koch in the case here given) is responsible for the combination which indicates its generic status.

It is then the specific name which is absolutely unchangeable—except in the single case noted, namely when it has already been applied to some other plant of that genus. If a plant has been incorrectly placed in any genus it can be replaced without losing its identity or history. Or, if the judgment of botanists as to the limitation of any genus changes, the specific name can be transferred accordingly without change. It is evident that a strict and uniform application of the principle or rule of priority will in no way prevent a readjustment of the views as to specific, varietal, generic, or ordinal limitations and diagnosis with farther development of knowledge in the of line systematic botany.

In examining the history of the scientific name of an interesting American tree, the Sassafras, we find that Linnaeus in 1753 applied the binomial Laurus sassafras. Salisbury in 1796 proposed the name Laurus variifolia, which would have been quite acceptably had not the plant already been duly named. In 1834 Nees von Esenbeck transferred the species to the genus Sassafras, but he manufactured a new specific name, Sassafras officinale, which American botanists have until recently been using. In 1880 Karsten restored the original specific name, which happens to be a duplicate of the generic name. The name in this form must nevertheless stand according to the principle of priority. Really after one understands the reason for saying Sassafras sassafras (L) Karst. his prejudice—or sentiment, perhaps—will doubtless gracefully yield, to no detriment, it must be confessed, and to the great gain of those who are yet to learn scientific names.

It must not be supposed that all the recently known names of plants are to be changed. Indeed no great fraction of them as given in the extant manuals are incorrect, though the total number of changes that have been required, is considerable.

When this matter is fully understood I know of no quarter whence serious objection to the accomplished reform will likely come. It is expected that a few who learned scientific names many years ago will decide that they do not wish to be worried by having to unlearn or relearn anything of this kind. But on second thought even they will perhaps admit the great desirability of a stable nomenclature and prefer, after all, that beginners should have the opportunity of learning names that will hereafter remain the same.

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Fall term September 3, 1894.

Address

SAUMENIG & DUNN,
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BUCKEYE ROUTE

THE COLUMBUS, HOCKING VALLEY TOLEDO R. R.

PARLOR CAR LINE TO

Columbus Athens and Pomeroy,

THE DIRECT ROUTE TO

Detroit, Jackson, Lansing & Michigan Point

CHICAGO, ST. PAUL, AND THE NORTH WEST.

Time Card, May 26, 1895.

NORTH BOUND.

STATIONS.	p m	p m			a m
Pomeroy Lv.	415	250	......	pm	
Middleport	422	255	......	......	
Gallipolis	616	332	......	......	800
McArthur	655	506	......	......	......
Athens	640	505	......	1225	......
Nelsonville	721	533	......	1252	......
LOGAN	8 0	610	......	118	......
Lancaster	837	652		252	......
Columbus Ar	915	800	am	255	......
Columbus Lv	1005	*830	*515	*310	......
Delaware	1048	915	555	355	......
Prospect	1105	928	613	414	......
Marion	1129	1000	635	430	......
Up Sandusky	1205	......	720	506	......
Carey	1225		740	520	......
Fostoria	1248	......	803	543	......
Pemberville	1 17	......	832	615	......
Toledo Ar	1 55	......	9.0	650	11 0
Detoit Ar	*610	a m	1 35	*929	10 45
Chicago	*710	725	5 27	......	7 10
	P.M.	A.M.	P.M.	P.M.	

SOUTH BOUND.

STATIONS.	p m	am	a m	p m	
Chicago, Lv.	8.0	......			
			p m		
Detroit			835	*220	......
Toledo	a m	720	1100	*520	......
Pemberville		7 55	1134	5 55	
Fostoria		8 30	1202	6 30	
Carey		8 55	1225	7 00	
Up Sandusky		9 15	1 00	7 35	
Marion	*525	935	130	810	......
Prospect	551	1005	145	830	......
Delaware	618	1025	205	853	......
Columbus Ar	700	1110	245	935	p m
Columbus Lv	*730	......	*300	......	*6 05
Lancaster	812	......	415	......	7 10
Logan	128	......	500	......	7 52
Nelsonville	1000	......	533	......	8 23
Athens	1030	......	600	......	8 55
McArthur	1019	......	6 1	......	......
Gallipolis	1153	*755	734	......	......
Middleport	1228	845	808	......	......
Pomeroy Ar.	1235	853	815	......	......

The Buckeye Flyer is the Business Man's Train to Chicago, fitted with elegant Parlor Cars and the easy Pullman Sleepers.

Through Pullman palace sleeping cars on night trains to Columbus and Chicago.

The only line running through parlor cars between Toledo, and Columbus, —seat fare only 25 cents.

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For rates, maps and other information, call on C. W. Schwenke, Ag't. at Logan, or write W. H. FISHER General Passenger and Ticket Agent, Room 31, Deshler Block, Columbus, Ohio

B. & O. S-W. RY.

TIME-TABLE.

Trains leave Athens as follows;

For Cincinnati	3:00 A. M.	1:35 PM	8:20 AM
" St Louis	2:00	1:35	
" Louisville	2:01	1-05	
	A.M.	PM	AM	PM
" Parkersburg	1:00	10:12	9:17	3:13
" Chillicothe	3:03	1:35	8:20	4:17

Trains leave McArthur Junct. as follows

For Cincinnati	1:34 Pm	9:25 Am	
" St Louis	1:34		
" Louisville	9:25 Am	1:51 Pm	
" Parkersburg	12:12 Pm	2:15	8:12 Am.
" Chillicothe	1:34	9:25 Am	5:16 Pm.

For detail information regarding rates, time on connecting lines, sleeping, parlor, dining cars, etc., address

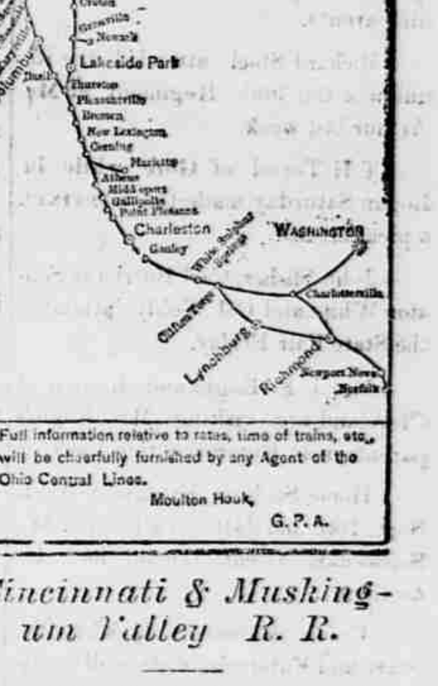
L. H. REUTINGER, Tkt. Agt. B & O, S W Ry. Athens, Ohio.

V. H. LEHMER, Tkt. Agt. McArthur Junction, Ohio.

J. B. WARFEL, Assistant Gen. Pass. Agent Cincinnati, Ohio.

Ohio Central Lines

T. & O. C. RY. K. & M. RY.



Full information relative to rates, time of trains, etc., will be cheerfully furnished by any Agent of the Ohio Central Lines.

Moulton Houk, G. P. A.

Cincinnati & Muskingum Valley R. R.

IN EFFECT MAY 19TH. 1895
CENTRAL TIME.

Arrival and Departure of Trains at Lancaster.

EAST BOUND.	DEPART.
No. 6 New York, Philadelphia, Baltimore, Boston, Washington, D.C., and Pittsburg	am 10 18
" 10, Zanesville Accommodation,	7 00
" 16, Dennison Accommodation,	P. M. 4 18

Number 6 connects at Trinway for Columbus, Indianapolis, St Louis, and all points West.

WEST BOUND.	DEPART.
No. 15, Cincinnati Mail	a m 8 45
" 7, Cincinnati Express	p m 3 50

CONNECTIONS.

Train Number 15 connects at New Lexington with the T & O.C. Ry. South, at Junction City with B & O. North at Lancaster with C. H. V. & T. Ry., North and South, at Circleville with N & W. Ry. South, at Washington C. H., with C. H. & D. Ry. North and O. S. Ry. South.

Train No. 7 connects at New Lexington with the T. & O. C. South, at Junction City with B. & O. Ry. North, at Lancaster with C. H. V. & T. Ry. South, at Circleville with N. & W. Ry. South, at Washington C. H. with C. H. & D. Ry and O. S. Ry. South.

Train No. 3 connects at New Lexington with T. & O. C. Ry. South and at Lancaster with C. H. V. & T. Ry. South.

Train No. 10 connects at Bremen with T. & O. C. Ry. North, at New Lexington with T. & O. C. Ry. South.

Train No. 6 Connects at Washington C. H. with C. H. & D. Ry. North and O. S. Ry. South.

Train No. 16 connects at Lancaster with C. H. V. & T. Ry. North and South, at Bremen with T. & O. C. Ry. North, at Junction City with B & O Ry. North and at New Lexington with T. & O. C. Ry. South.

TRAINS ARRIVE.

	A. M.	P. M.	P. M.
From East	8 45	3 40	7 30
From West	10 05	4 08	

F. M. WILKINSON, Gen'l Pass Agt.
C. M. BENNETT, Supt. Zanesville, O.

Grand Central Hotel

COL. ANDREW SCHWARTZ, Prp'r,

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